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OU 2 INTERMEDIATE DESIGN PACKAGE FOR THE ON-SITE DISPOSAL FACILITY

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

MAY 23 1996

Mr. Johnny W. Reising
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

SRF-5J

RE: OU 2 Intermediate Design Package for the On-Site Disposal Facility

Dear Mr. Reising:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the United States Department of Energy's (U.S. DOE) Operable Unit (OU) 2 Remedial Design (RD) intermediate design package for the On-Site Disposal Facility (OSDF). The intermediate design package included the calculations and specification packages; design drawings; support plans for the OSDF; and the draft remedial action work plan for the OSDF.

Overall, the intermediate design package adequately conforms to the Record of Decision, regulatory requirements and generally accepted engineering practices.

The design package has also addressed the majority of U.S. EPA's previous comments on the preliminary design package. However U.S. EPA has several comments on the support plans. Also no groundwater monitoring plan or draft post-closure monitoring plan was included in the design package.

Therefore, U.S. EPA disapproves the OU 2 intermediate design package for the OSDF. U.S. DOE must submit a comment response document addressing and incorporating U.S. EPA's attached comments with the pre-final design package for the OSDF by June 28, 1996.

Please contact me at (312) 886-0992 if you have any questions regarding this matter.

Sincerely,

James A. Saric
Remedial Project Manager
Federal Facilities Section
SFD Remedial Response Branch #2

Enclosure

cc: Tom Schneider, OEPA-SWDO
Jack Baublitz, U.S. DOE-HDQ
John Bradburne, FERMCO
Charles Little, FERMCO
Terry Hagen, FERMCO
Michael Yates, FERMCO

ENCLOSURE

TECHNICAL REVIEW COMMENTS ON THE INTERMEDIATE DESIGN PACKAGE FOR THE ON-SITE DISPOSAL FACILITY

GENERAL COMMENTS

INTERMEDIATE DESIGN CALCULATION PACKAGE

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.3 Page #: NA Line #: NA
Original General Comment #: 1
Comment: This section provides the OSDF earthwork volume requirements. The calculations in this section lack the earthwork volume requirements for the test pad. The section should be revised to include test pad earthwork volume requirement calculations.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 13.1 Page #: NA Line #: NA
Original General Comment #: 2
Comment: Original Specific Comment #9 of the preliminary (30 percent)design package states that the crest of the flood protection berm on the west side of the On-Site Disposal Facility (OSDF)should be constructed to a minimum elevation of 596.0 feet above mean sea level (amsl). However, Drawing 6-41 presents a profile of the top of the west berm that indicates that a 1,500-foot section of the berm is up to 4.5 below the 596.0 amsl 2,000-year flood elevation. In its March 1996 submittal, the U.S. Department of Energy's (DOE) response to this comment states that the intermediate design package (IDP) perimeter berm detail will be revised including revised runon-runoff calculations. The response further states that the revised calculations demonstrate that runon and runoff from the 2,000-year, 24-hour design storm will be fully controlled by the OSDF surface water management system and the maximum flood elevation will not encroach upon the OSDF. DOE's response states that Section 13.1 of the IDP calculation package and Drawing G-30 will satisfy U.S. EPA's comment.

The stated revisions to Section 13-1 and Drawing G-30 are not adequate to satisfy the original comment. Figure 3 is illegible and there is no cross-section and profile drawing to show perimeter berm elevations. The text should be revised to address this comment.

AIR MONITORING PLAN, ON-SITE DISPOSAL FACILITY

Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #: 3
Comment: The Air Monitoring Plan should be a stand-alone document. As currently written, the plan makes reference to numerous Fernald Environmental Management Program (FEMP) plans and documents but does not present or discuss the material it makes reference to in sufficient detail. For example, Section 6.2.2 refers to a standard operating procedure (SOP) for high-volume air monitoring. That SOP should be included as an appendix to the Air Monitoring Plan. Additional examples of material that should be discussed more completely or incorporated in the Air Monitoring Plan are discussed in the Specific Comments section of this document.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #: 4
Comment: The Air Monitoring Plan is limited to evaluating potential air emissions for remedial activities associated with the OSDF. The activities (discussed in Section 3.4.2) include construction of the facility, placement of wastes in the facility, capping the facility, and excavating soil from the borrow area. The plan is not designed for monitoring and does not consider other activities that will generate air emissions. Specifically, the plan does not include monitoring of air emissions associated with excavation and demolition activities in the five operable units (OU) or air emissions associated with the transport of material from the OUs to the OSDF. Air emissions from those activities are likely to be as significant as air emissions associated with the disposal facility. The Air Monitoring Plan should be expanded to address the additional air emissions or should identify clearly any other monitoring plans that will be developed to evaluate such emissions.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #: 5
Comment: Section 3.2.6.8 of the Intermediate Design Criteria Package lists five requirements that the Air Monitoring Plan should address. The last two requirements (quality assurance requirements and requirements governing the qualifications of air monitoring personnel) are not covered in the Air Monitoring Plan. The plan should be revised to address those requirements.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 1.1 Page #: 1-1 Line #: 18 to 27
Original General Comment #: 6
Comment: The introduction to the Air Monitoring Plan for the OSDF states that the plan will be supported by "two existing site air emissions monitoring programs . . . the Occupational Air Monitoring Program and the Fernald Sitewide Environmental Monitoring Program." The Air Monitoring Plan discusses the manner in which the data from the second of those programs will be used to evaluate air emissions from the OSDF. However, the plan contains no subsequent discussion of how the results of the Occupational Air Monitoring Program will be used. The Air Monitoring Plan should be revised to address this deficiency. Specific Comments #11, #12, and #25 present additional concerns related to this issue.

CULTURAL RESOURCE UNEXPECTED DISCOVERY PLAN

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.0 Page #: J-1 Lines #: NA
Original General Comment #: 7
Comment: The text states that Phase I and Phase II investigations were conducted and indicates that data are being recovered; however, the text provides no background description of Phase I investigation and findings or of activities conducted during the Phase II investigation. The text should be revised to summarize briefly the results of those investigations.

CONSTRUCTION QUALITY ASSURANCE PLAN

Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #:8
Comment: Several specification sections refer to the Construction Quality Assurance (CQA) Plan. Unless the contract documents include the CQA Plan as part of the specifications, there is no contractual responsibility on the part of the construction subcontractor to adhere to the CQA Plan. The CQA Plan should be incorporated into the contract documents, or all the stipulations of the CQA Plan that are the responsibility of the construction subcontractor must be included in the contract documents.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #:9
Comment: The responsibility for submitting data must be set forth identically in the CQA Plan and the specifications.

For example, on Page 8-5, the CQA Plan states that the manufacturer submits information about the geomembrane to the construction contracts manager (CCM), while Section 02770-4 of the specifications states that the construction subcontractor submits that information. These discrepancies should be corrected.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #:10
Comment: The relationships among the resident engineer, the construction quality control (CQC) consultant, and the CCM is not clear. Those relationships should be defined more clearly in the CQA Plan and should conform with those relationships as described in the specifications.

IMPACTED MATERIALS PLACEMENT PLAN

Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #:11
General Comment: The Impacted Materials Placement Plan discussed five categories of materials that will be placed in the OSDF, as well as the Quality Assurance Plan under which materials coming to the OSDF will be monitored and procedures for placement and compaction. Volume reduction for oversized materials under category 5 should be considered to further reduce the possibility of differential settlement of the final cover.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 8.5 Page #: 8-6 Line #: 19 and 20
Original General Comment #:12
General Comment: The extent to which category 4 materials will be mixed with soils to minimize the potential for anaerobic decomposition is vague. Inclusion of a limit on the volume of category 4 materials that will be placed in a given acreage of the OSDF will be helpful to the operator of the OSDF.

DRAFT REMEDIAL ACTION WORK PLAN

Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #:13
Comment: The Remedial Action Work Plan (RAWP) identifies various support plans for the OSDF remedial action project that have been or will be submitted to U.S. Environmental Protection Agency (U.S. EPA) for review. Specific sections of the RAWP often refer to those support plans, but provide no

discussion of their content or specific purposes in relationship to the RAWP. In each section, as appropriate, the RAWP should be revised to summarize briefly the content and purpose of each support plan and indicate how the plans support the RAWP.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #: 14
Comment: In discussing the background of the OSDF project, the RAWP refers to separate work plans that were submitted previously. The RAWP is an enforceable document and as such, the RAWP should be revised to expand on the OSDF project descriptions. It is recommended that the following information be summarized in the RAWP: (1) approximate volume of impacted material to be placed in the OSDF, (2) waste acceptance criteria (WAC) for impacted material, (3) identification of proposed staging areas for impacted material and reference to a document that describes procedures for managing the staged material , (4) areal extent and height of the OSDF, (5) information describing the leachate detection and collection system, and (6) information describing the design of the liner and cover system. A figure(s) showing the location and configuration of the OSDF also should be included.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #: 15
Comment: The work pan does not address the interim closure scenario for the OSDF. That scenario, agreed upon verbally by DOE and U.S. EPA, included temporary closing of the landfill for an extended period of time if the project funding should be cut substantially or eliminated. A brief discussion of that scenario and a more comprehensive description of the construction sequence should be included in the text of the RAWP. A table identifying the approximate cell construction dates also should be included in the text.

SPECIFIC COMMENTS

PRELIMINARY DESIGN CALCULATION PACKAGE

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.2 Page #: 4 of 16 Line #: NA
Original Specific Comment #:1
Comment: The thickness of the soil components of the liner system is 6 feet with the geosynthetic components adding negligible additional thickness. The cross-sectional area calculation of the liner system uses a thickness of 5 feet. The calculation should be revised to incorporate the correct liner system thickness because it affects the subsequent net area calculation (page 5 of 16) and the net volume calculations (page 10 of 16).

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.3 Page #: 9 of 32 Line #: NA
Original Specific Comment #:2
Comment: The inner cell cover system earthworks requirement volume calculation considers the earthwork volume for a choke layer and a contouring layer. A cross-section sketch of the inner cell cover system, including these two layers, should be included or referenced in this section.

INTERMEDIATE DESIGN CALCULATION PACKAGE

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.8.3 Page #: 2-90 Line #: NA
Original Specific Comment #: 3
Comment: Bullet #1 states "stormwater runoff from watersheds in the OSDF to the receiving water course (e.g., Paddys Run) should be discharged at a rate no greater than the predevelopment runoff discharge rate unless it is documented or demonstrated that the receiving watercourse can accept such flow."

Regardless of the capacity of the receiving water course, the maximum stormwater runoff discharge rate should be restricted to the predevelopment runoff discharge rate. Such restriction will prevent any unexpected flooding downstream, since stormwater runoff should not be conveyed downstream at a faster rate in the developed stage than it would have been transmitted downstream in the predeveloped stage. The phrase "the receiving water course can accept such flow" should be deleted from the text.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.8.4.A Page #: 2-96 Line #: NA
Original Specific Comment #: 4
Comment: The text indicates that the haul roads will be constructed of suitable material that conforms to standard specifications established by the Ohio Department of Transportation (ODOT). The applicable ODOT standard specifications for road material should be stated, or a reference should be made to the design specifications for the haul roads.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.9.2.4 Page #: 2-105 Line #: NA
Original Specific Comment #: 5
Comment: The last paragraph of this section states that large off-road earthmoving equipment may be decontaminated inside an active cell with a portable high-pressure spray, with the runoff allowed to percolate into the cell collection system. There should be noted on the plans a designated area within each active cell for that decontamination operation, located where it will not interfere with other activities conducted there.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.10.2.1 Page #: 2.112 Line #: NA
Original Specific Comment #: 6
Comment: Bullet #3 of this section discusses the grade of the borrow area. The text states that by limiting the depth of excavation, the design will be: more cost effective when it includes final slopes of at least 0.5 percent to promote drainage. A minimum grade of 0.5 percent on a restored grass-lined slope may not be sufficient to promote good drainage. A minimum slope of 1 percent would be a more positive drainage slope and promote better storm water management, while remaining cost-effective.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.10.2.4 Page #: 2-116 Line #: NA
Original Specific Comment #: 7
Comment: The text indicates that the haul roads will be constructed of suitable material that conforms to standard specifications established by the Ohio Department of Transportation (ODOT). The applicable ODOT standard specifications for road material should be stated, or a reference should be made to the design specifications for the haul roads.

PERMITTING PLAN AND SUBSTANTIVE REQUIREMENTS

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.2 Page #: 2-1 Lines #: 24 through 26
Original Specific Comment #: 8
Comment: The text indicates that construction water generated during construction of the liner and cover systems will be discharged through the permitted storm water outfall at Paddy's Run. Because the water may contact disturbed areas, this paragraph should state clearly why the water will not be treated before discharge. The text should be revised to provide justification for not treating the construction water which comes in contact with waste before its discharge to Paddy's Run.

AIR MONITORING PLAN

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 1.2 Page #: 1-3 Line #: 3 to 14
Original Specific Comment #: 9
Comment: Section 1.2 lists two requirements, based on the Final records of decision for OU2 and OU5, that the Air Monitoring Plan must address. The second requirement is that the plan should "provide for collection of air particulate data in real-time." The monitoring frequency described in Section 5 does not meet this requirement. The plan calls for continuous sampling of ambient air, but samples are to be recovered and analyzed only biweekly for some parameters and only annually for others. The plan should discuss further how the requirement to collect real-time air particulate data will be met.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.1 Page #: 3-1 Line #: 15 to 19
Original Specific Comment #: 10
Comment: Section 3.1 states that air emissions from construction of the OSDF and placement of impacted material were evaluated as described in the Feasibility Study Report for OU5. The evaluation is summarized only briefly in Section 3 of the Air Monitoring Plan. However, the evaluation serves as the technical basis for the selection of analytical parameters, monitoring locations, and frequency of monitoring. The Air Monitoring Plan should be revised to include an expanded summary of methods to be used and results of the evaluation, or that information should be included as an appendix to the plan. Specifically, the expanded summary should address all activities that generate air emissions that were evaluated, the methods used to estimate air emissions, the type of dispersion model that

was used to predict ambient air concentrations, and the downwind receptor locations that were evaluated.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.1 Page #: 3-1 Line #: 27 to 30
Original Specific Comment #: 11
Comment: The text states that remedial workers on the property are potentially at risk from inhalation of air emissions from the OSDF and that the workers should be monitored under a health and safety program. The Air Monitoring Plan should discuss in greater detail (1) any ambient air monitoring activities that will be conducted under this effort and (2) how resulting data will be used to support the air monitoring program for the OSDF (See General Comment #6).

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.2 Page #: 3-3 Line #: 12 to 16
Original Specific Comment #: 12
Comment: The text states that "chemical toxicants" released to air from operations at the OSDF will affect only remediation workers on the site and therefore are not included in the Air Monitoring Plan. That decision is inconsistent with information presented on page 3-1 (workers should be monitored under a health and safety program) and page 1-1 (the existing Occupational Air Monitoring Program will support the Air Monitoring Plan). Again, the Air Monitoring Plan should discuss in greater detail (1) any occupational- or health and safety-related ambient air monitoring activities that will be conducted and (2) how resulting data will be used to support the air monitoring program for the OSDF (See General Comment #6 and Specific Comment #11).

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.3 Page #: 3-5 Line #: Table 3-1
Original Specific Comment #: 13
Comment: Footnote 3 indicates that the third column of Table 3-1 presents both DOE-derived concentration guidelines and measured radionuclide concentrations from two sampling locations. However, only a single set of numbers is presented. The footnote should be revised to identify more clearly the information presented in the third column.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.4.2 Page #: 3-7 Line #: 18 and 19
Original Specific Comment #: 14
Comment: The text referring to "visual emissions monitoring by certified Visual Emissions Evaluators" should be revised. U.S. EPA certification requirements for visual emissions monitoring are applicable only to 40 Code of Federal Regulations (CFR) 60, Appendix A, Method 9, Visual

Determination of the Opacity of Emissions from Stationary Sources. Method 9 is applicable to particulate air emissions from point sources, such as ducts, stacks, or roof vents, but is not applicable to fugitive dust sources. All anticipated particulate emissions from the OSDF will be in the form of fugitive dust; Method 22, Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares, is a more appropriate method of visual emissions monitoring. Method 22 does not require certification of observers.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.1 Page #: 4-1 Line #: 3 to 22
Original Specific Comment #: 15
Comment: Section 4.1 briefly states that both wind speed and wind direction are measured at FEMP. However, the text does not discuss how measurements of those parameters will be coordinated with the air monitoring program or used to interpret air monitoring results. The text should be revised to include such information.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2 Page #: 4-1 Line #: 25 to 30
Original Specific Comment #: 16
Comment: Section 4.2 briefly states that the Waste Methodology was applied to select appropriate fenceline air monitoring locations for the Fernald Site Environmental Monitoring Plan. This section should be expanded to include a discussion of the application of the Waste Methodology to the selection of air monitoring locations for the OSDF.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.3 Page #: 4-2 Line #: 1 to 18
Original Specific Comment #: 17
Comment: Section 4.3 suggests that five air monitoring stations in the existing Fernald Sitewide Environmental Monitoring Program (locations 2, 3, 4, 8, and 9) are sufficient to evaluate the effects of air quality on activities conducted at the OSDF. However, the Air Monitoring Plan contains no technical information to support this determination. The discussion of air monitoring locations in Section 4.3 should be expanded to provide, at a minimum, the following:

- A figure showing the locations of the OSDF, the borrow area for the disposal facility, and the proposed air monitoring locations. The figure also should show the boundaries of FEMP, and the locations of potential receptors.

- A discussion of the methods used to select monitoring locations. If an air dispersion model was used in the selection process, the plan should identify the model used; describe the input parameters for the model (air emission rates and meteorological data) and the sources of those parameters; and summarize the results obtained from the model, including the predicted locations of maximum effects relative to the locations of potential receptors.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.3 Page #: 4-2 Line #: 20 to 22
Original Specific Comment #: 18
Comment: The text states that additional air monitoring stations may be installed if the proposed network of monitoring stations cannot adequately assess potential public exposure. The text should state the specific criteria that will be used to determine whether the proposed network is assessing potential public exposure adequately. The criteria should be incorporated into the periodic evaluation of the plan discussed in Section 7.4.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 5.3.1 Page #: 5-2 Line #: 6 and 8
Original Specific Comment #: 19
Comment: The text should cite Method 22, rather than Method 9, of visual monitoring of fugitive emissions. Also, see Specific Comment # 14.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 5.3.2 Page #: 5-2 Line #: 15 to 20
Original Specific Comment #: 20
Comment: Section 5.3.2 proposes continuous sampling of ambient air, but proposes to analyze most target analytes only annually. Such infrequent analysis is not supported by any technical information presented in the Air Monitoring Plan; the proposal therefore should be revised. Table 3-1 presents predicted air concentrations of target analytes for the OSDF and shows that the predicted concentrations are below levels of concern. However, the predicted results apparently are based on (1) air emission models used to estimate the release of target analytes from activities at the OSDF and (2) air dispersion models used to estimate the air concentrations of target analytes downwind from the facility. The results of both models can be subject to significant uncertainties. During the initial stages of operations (for example, placement of different categories of waste or new stages of OSDF cell construction), analyses for target analytes should be conducted more frequently. If results of analysis demonstrate that air concentrations of

target analytes are low and similar to previously predicted values, less frequent analysis can be considered.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 6.2 Page #: 6-2 Line #: Table 6-1
Original Specific Comment #: 21
Comment: The list of target analytes in Table 6-1 is not completely consistent with the list of radionuclides evaluated that is presented in Table 3-1. Specifically, plutonium-239/240 and thorium 234 are included in Table 3-1, but are not listed as target analytes in Table 6-1. Table 6-1 should be revised to include those analytes, or the text of Section 6.2 should explain why those analytes are not included.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 6.2.2 Page #: 6-4 Line #: 12
Original Specific Comment #: 22
Comment: The text states that laboratory procedures for target analytes are listed in Table 6-1. However, the table includes only a one- or two-word description of the analytical method that will be used. The text should be revised to include a more complete discussion of laboratory procedures and associated quality assurance requirements (See General Comment # 5).

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.2 Page #: 7-1 Line #: 21 to 24
Original Specific Comment #: 23
Comment: Section 7.2 states that analyses for the concentration of total uranium in air samples will be conducted every two weeks, but that analysis for other radionuclides will be conducted only once per year. Even if one assumes that "total uranium" represents natural uranium, the uranium chemical analysis will provide no information about most of the other target radionuclides. If detection limits for the other radionuclides are of concern, a two-tiered analysis for those analytes could be considered. Gross alpha, beta, and gamma analysis could be conducted as the first tier, followed by spectroscopy as the second tier, only if the results of gross analysis exceed specified limits.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.2 Page #: 7-2 Line #: 2
Original Specific Comment #: 24
Comment: The text should cite Method 22, rather than Method 9, for visual monitoring of fugitive emissions. Also see Specific Comment # 14.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.2 Page #: 7-2 Line #: 8 to 10
Original Specific Comment #: 25
Comment: The text summarizes potential risks to remedial workers on the site. However, as stated in General Comment # 6 and Specific Comment #s 11 and 12, the Air Monitoring Plan should discuss the specific air monitoring activities that will be conducted to evaluate those potential risks.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.3.2 Page #: 7-3 Line #: 15 to 22
Original Specific Comment #: 26
Comment: Specific Comment #23 also applies to Section 7.3.2.

BORROW AREA MANAGEMENT AND RESTORATION PLAN

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.4 Page #: 4-2 Line #: 31
Original Specific Comment #: 27
Comment: The text indicates that the haul roads will be constructed of suitable material that conforms to standard specifications established by the Ohio Department of Transportation (ODOT). The applicable ODOT standard specifications for road material should be stated, or a reference should be made to the design specifications for the haul roads.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 5.1 Page #: 5-1 Lines #: 4 through 11
Original Specific Comment: # 28
Comment: The text describes the spatial arrangement of the early and late staging areas. Inclusion of a figure depicting the areas, the swale, the topography, and the surface water flow would help clarify the paragraph and the section.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 5.3 Page #: 5-3 Lines #: 20 and 21
Original Specific Comment #: 29
Comment: The text states that "erosion and sediment controls shall be implemented in the vicinity of sediment controls." The statement lacks clarity and should be revised to distinguish between the sediment controls that will be implemented from the sediment controls that are currently in the proposed vicinity of the OSDF.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.2.1 Page #: 7-1 Line #: 28
Original Specific Comment #: 30
Comment: The text identifies recommended seed mixtures. The text does not state which mixtures have been selected for the restoration of the borrow area. The text should be revised to state which seed mixtures will be used at the borrow area.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.3.3 Page #: 7-3 Line #: 34
Original Specific Comment #: 31
Comment: The text refers to "Sheet No.12 titled Borrow Area Restoration Plan." Sheet No. 12 is not included in the Borrow Area Management and Restoration Plan. The text should be revised to specify where Sheet No. 12 can be found.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.6.3 Page #: 7-10 Line #: 34
Original Specific Comment #: 32
Comment: The text refers to a "cleanout elevation specified on the drawings." The text does not identify the specific title of the drawings, nor does it indicate where the drawings can be found. The text should be revised to provide a complete reference to the drawings.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: Appendix B, Table 4 Page #: 16 Line #: Last row
Original Specific Comment #: 33
Comment: The information provided in the last row of the table contradicts the information set forth in paragraph that follows the table. The table includes a seeding scenario for slopes greater than 33 percent; however, the text indicates that the maximum slope allowed in the plan is 33 percent. The text and table should be revised to resolve the discrepancy.

CONSTRUCTION QUALITY ASSURANCE PLAN

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.2 Page #: 2-2 and 2-3 Line #: 25 to 21 and 1 to 5
Original Specific Comment #: 34
Comment: The text indicates that the test pad program has been completed. That information is incorrect. The test pad program is scheduled to be conducted in mid-May 1996. The text should be revised to indicate the current status of the test pad program.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.2.2 Page #: 2-7 Line #: 1
Original Specific Comment #: 35
Comment: Subsection 2.2.2 discusses the leachate collection system. A similar subsection should be included that discusses the leak detection system.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4 Page #: 4-2, Figure 4-1 Line #: NA
Original Specific Comment #: 36
Comment: The following comments concern the organization chart:

(a) The chart eventually (by the prefinal submission date) should include the names of the people who will hold the positions indicated.

(b) Each position included on the chart should be discussed in the text. In the current document, positions are not addressed for the following areas: project management, quality assurance, radiation protection, health and safety, and construction engineering.

(c) The construction subcontractor's field representative is discussed in the text but not included in the chart. The chart should be modified to add that position.

(d) Lines of communication and authority should be defined more clearly.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.2 Page #: 4-3 Line #: 20 and 27
Original Specific Comment #: 37
Comment: The text states that the resident engineer is responsible for approving all design and specification changes on Line 20, but, on Line 27, the text states that the resident engineer shall have the authority to only recommend modifications for approval by the CCM. This discrepancy should be corrected.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.4 Page #: 4-5 Line #: 20
Original Specific Comment #: 38
Comment: The relationship between the resident engineer and the subcontractor's field representative is not defined clearly. This information should be clarified.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.5 Page #: 4-6 Line #: 16
Original Specific Comment #: 39
Comment: The text states that the CQC consultant is independent of the construction CCM; however, the organization chart on page 4-2 seems to indicate that the CQC reports to the CCM. If the intent is that the CQC be independent only from the construction subcontractor, the text should be revised to indicate this. If the CQC is independent of the CCM, the organization chart should be revised, possibly to indicate that the CQC consultant reports to the FERMCO quality assurance group.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.5 Page #: 4-8 Line #: 30
Original Specific Comment #: 40
Comment: The text states that the CQC consultant is responsible for monitoring compliance with specifications for construction materials. The text should state clearly whether such monitoring is another review of shop drawings or a review of materials delivered to the site to confirm that they match the approved shop drawings.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.5 Page #: 4-12 Line #: 20
Original Specific Comment #: 41
Comment: The text states that the CQC consultant assures that the surface water drainage is correct. The CQC consultant only monitors the work; the construction subcontractor assures that the work is correct. The text should be modified to so indicate.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.6 Page #: 4-13 Line #: 25
Original Specific Comment #: 42
Comment: The text in this section should be revised to address the issue raised regarding CQC monitoring requirements in Specific Comment No. 40.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.9 Page #: 4-18 Line #: 10
Original Specific Comment #: 43
Comment: The text states that the construction subcontractor submits the installer's license to the CCM with the bid. The specifications state that the license is submitted 14 days before mobilization (02270-4, Line 27). The text should be corrected.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 5.4 Page #: 5-6 Line #: NA
Original Specific Comment #: 44
Comment: The text should state clearly which party generates the final documentation that the CQC consultant submits to the CCM. For example, the record drawings and the professional engineer (PE) sign-off should be completed by the construction subcontractor, not by the CQC consultant.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.1 Page #: 7-1 Line #: 14 and 17
Original Specific Comment #: 45
Comment: The text states that the hydraulic conductivity of the leachate layers should be 1 x 10^{-1} centimeters per second (cm/s) "or less." To conform to the construction specification in Section 02710: Granular Drainage Layer, that statement should be revised to read "or greater."

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.1 Page #: 7-2 Line #: 2
Original Specific Comment #: 46
Comment: The text states that the hydraulic conductivity of the leachate layers should be 1 x 10^{-1} cm/s "or less." To conform to the construction specification in Section 02710: Granular Drainage Layer, that statement should be revised to read "or greater."

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 8.5 Page #: 8-7 Line #: 14
Original Specific Comment #: 47
Comment: The text states that the responsibility for transportation and handling of geomembranes rests with any of several parties. FERMCO has a contract only with the construction subcontractor; therefore, the construction subcontractor should be responsible for all materials and construction. The text should be corrected.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 8.6 Page #: 8-8 Line #: 1
Original Specific Comment #: 48
Comment: This section discusses conformance testing that the CQC consultant will perform on the geomembrane delivered to the site. Section 8.3.3 discusses the quality control procedures and certification required of the geomembrane manufacturer. Section 8.3.4 discusses the CQC consultant's plant visit to verify that the manufacturer follows the quality control procedures submitted. The necessity of spending additional money to test products that the manufacturer has tested and certified, using a procedure acceptable to FERMCO, should be reviewed.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 8.10 Page #: 8-16 Line #: 28
Original Specific Comment #: 49
Comment: The text states several items that the CQC Consultant must verify during the seaming of the geomembrane. The construction subcontractor and installer are responsible for the work and should be required to certify that the seaming is done correctly. Additions to the text of a statement to that effect should be considered.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 8.12 Page #: 8-33 Line #: 24
Original Specific Comment #: 50
Comment: The text states that the manufacturer and the installer retain ownership and responsibility until acceptance. Since FERMCO has a contractual relationship only with the construction subcontractor, the responsibility should be that of the construction subcontractor. This circumstance should be reviewed.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 8.12 Page #: 8-34 Line #: 7
Original Specific Comment #: 51
Comment: The text states that the CQC consultant shall certify that the installation has been constructed in accordance with plans and specifications. FERMCO also should obtain certification from the installer and the construction subcontractor. This revision should be considered.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 9.6 Page #: 9-4 Line #: 23
Original Specific Comment #: 52
Comment: The text in this section should be revised to address the leachate layer conformance testing issues raised in Specific Comment No. 48.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 10.6 Page #: 10-5 Line #: 1
Original Specific Comment #: 53
Comment: The text in this section should be revised to address the geomembrane conformance testing issues raised in Specific Comment No. 48.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 10 Page #: NA Line #: NA
Original Specific Comment #: 54
Comment: There is no discussion of the need to certify the installation of the geotextile. The need for such a discussion should be reviewed and the discussion added, if necessary.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 12.3 Page #: 12-2 Line #: 3 and 10
Original Specific Comment #: 55
Comment: The text states that shop drawings must be submitted 10 working days before installation of materials begins. It also states that no materials may be ordered before the shop drawings have been approved. Ten days is not enough time for the review and approval of shop drawings and the work sequence described. This discussion should be reviewed and clarified, as necessary.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 13.3 Page #: 13-1 Line #: 19
Original Specific Comment #:56
Comment: The text in this section should be revised to address the conformance testing issues raised in Specific Comment # 48.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 15.3 Page #: 15-1 Line #: 20 and 21
Original Specific Comment #: 57
Comment: The CCM cannot be responsible for notifying the CCM; this text should be corrected.

SYSTEMS PLAN

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 1.2, Figure 1-2 Page #: 1-2 Line #: NA
Original Specific Comment #: 58
Comment: This figure shows the construction details of the cover and bottom liners; however, the construction details of the side liner are not shown. Figure 1-1 should be revised to show the construction details of the side liner, or a figure showing those details should be added to the systems plan.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 1.2, Table 1-1 Page #: 1-3 Line #: NA
Original Specific Comment #: 59
Comment: The text refers to disposal cells, but no figure showing the locations of various cells in the OSDF is included in the systems plan. The systems plan should be revised to include or refer to a figure that shows the locations of all disposal cells.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 1.3 Page #: 1-4 Line #: 4
Original Specific Comment #: 60
Comment: Bullet #2 uses the phrase "and monitoring, the. . . ." It is recommended that this phrase be revised to read "monitoring, and maintaining the. . . ."

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.4 Page #: 2-3 Line #: 33 to 38
Original Specific Comment #: 61
Comment: The text refers to other criteria applicable to the systems plan that consist of industry-standard practices that have proven effective at other waste disposal facilities. However, such industry-standard practices are not listed in the text. The text should be revised to list the industry-standard practices referred to in the text.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.1 Page #: NA Line #: NA
Original Specific Comment #: 62
Comment: The text refers to the pipes and manholes of the leachate collection system and leak detection system and to the biodenitrification surge lagoon. However, no drawing showing the locations of these items is included in the systems plan. To help the reader understand the discussion in the text, the systems plan should be revised to include a drawing that shows adequately the locations of all pipes, manholes, and other items referred to in the text.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.2 Page #: 3-4 Line #: 9 to 15
Original Specific Comment #: 63
Comment: The text states that, during winter months, the temporary force main must be covered by a soil cover at least one foot thick for frost protection. The text should be revised to indicate the depth of penetration of frost at the site.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.3 Page #: 3-5 Line #: 9 and 10
Original Specific Comment #: 64
Comment: The text refers to requirements for construction acceptance testing; however, the requirements are not provided in the systems plan. The text should be revised to include the requirements for construction acceptance testing or to refer to a document that sets forth those requirements.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.3 Page #: 3-6 Line #: 1 to 4
Original Specific Comment #: 65
Comment: The text states that once impacted material is placed in a cell, all storm water will then be pumped to the FEMP storm water management system. This approach is not acceptable. Once impacted material is placed into a cell, all water that comes into contact with that material should

be considered leachate and should be managed as leachate. The text should be revised to address this issue.

DRAFT REMEDIAL ACTION WORK PLAN

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 1.4 Page #: 1-7 Line #: NA
Original Specific Comment #: 66
Comment: The title of Figure 1-2 is OU2 Remedial Action Lead Project Personnel. The correct title of Figure 1-2 should be OSDF Lead Project Personnel. In addition, the names of the project personnel assigned to specific positions for the OSDF project should be included in Figure 1-2. It is understood that the personnel assigned to this project may change as the project progresses; however, the lines of authority, responsibility, and communication should be stated clearly. If there are any changes in lead project personnel, DOE should notify the regulatory agencies in writing. Such notification will serve as an addendum to the work plan. In addition, the figure lists an engineering manager and an operations manager. The job descriptions for those positions are not discussed in Section 1.4 of the RAWP. The text should be revised to include a discussion of the job descriptions of the engineering manager and the operations manager.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.2 Page #: 2-3 Line #: 18
Original Specific Comment #: 67
Comment: The text discusses the role of the CCM. It is unclear whether the CCM is the construction manager identified in Figure 1-2 or another person. The text and Figure 1-2 should be revised so that project position titles are used consistently throughout the RAWP.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.5.3 Page #: 2-11 Line #: 22
Original Specific Comment #: 68
Comment: Table 2-1 discusses remedial action project milestones for the OSDF. Table 2-1 should be revised to include the milestones for implementation of long-term monitoring and maintenance of the OSDF, an activity that is specified in the RAWP. In addition, a construction schedule that indicates what cells will be constructed and in what time frame should be included in the RAWP.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.6 Page #: 2-12 Line #: 12 to 16
Original Specific Comment #: 69
Comment: The text discusses the initial construction of the OSDF, including excavation and testing of shallow surface soil and certification that the area is not contaminated. Excavation of surface soil and certification of a "clean" area appear to be beyond the scope of the OU 2 OSDF activities. Excavation of soil and certification for site preparation should be included in the scope of the sitewide soil excavation plan, with the area of the OSDF detailed in the Remedial Action Work Plan for the Soil Remediation Project Area I. The text should be modified to include that reference. The text does not specify the procedures for testing the excavated shallow soil or identify the location at which the excavated soil will be stockpiled. The text also should clarify whether staging areas for the temporary holding of demolition debris and soil will be constructed before the initial construction of the OSDF.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 2.6 Page #: 2-12 Line #: 23
Original Specific Comment #: 70
Comment: The text discusses the sequence of construction of the individual cells of the OSDF. Inclusion of a figure showing the configuration and sequence of construction of the individual cells of the OSDF and an approximate construction time table should be included.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.0 Page #: 3-1 Line #: 25 to 27
Original Specific Comment #: 71
Comment: This section provides a general discussion of permit requirements pertinent to the OSDF and refers to a support plan being submitted for the OSDF remedial action. As stated in general comment #13, the text should be revised to include a brief summary of the permitting requirements for the OSDF and how those requirements will be met. In addition, the text should include a discussion of how applicable relevant and appropriate requirements (ARAR) will be met and set forth a method of documenting that ARARs are met during the remedial action.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.0 Page #: 4-1 Line #: 3 to 19
Original Specific Comment #: 72
Comment: The text discusses WACs established for the OSDF. The text should be revised to include the WACs (radiological, chemical, and physical) for the OSDF. The text also refers to other support plans for sampling impacted materials and

soil in the OSDF and borrow area footprints. As stated in general comment #13, the text should include a brief summary of those support plans.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 5.0 Page #: 5-1 Line #: 13 to 18
Original Specific Comment #: 73
Comment: The text refers to a forthcoming Post-Closure Care and Inspection Plan for the OSDF. The text should provide a brief discussion of the inspection and monitoring activities that are included in that support plan and any corrective action activities that may be found necessary as a result of inspection or monitoring activities.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.1 Page #: 7-1 Line #: 20
Original Specific Comment #: 74
Comment: The text states that the OSDF construction subcontractor develops specific safe work plans. The text does not state who approves the safe work plans. The text should be revised to specify the procedures for approving safe work plans.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.2 Page #: 7-2 Line #: 1
Original Specific Comment #: 75
Comment: The text states that the contingency plan for the OSDF remedial action project is covered by the existing FEMP Emergency Plan. However, the OSDF has not been constructed to date. Therefore, the FEMP Emergency Plan must be revised to include specific emergency procedures related to the remedial action activities at the OSDF.